DRAFT
ENVIRONMENTAL ASSESSMENT

MOUNT HAGGIN WMA-GERMAN GULCH
GRAZING LEASE
February 2011
MEPA, NEPA, MCA 23-1-110

I. PROPOSED ACTION DESCRIPTION

1. Type of proposed state action: Montana Fish, Wildlife & Parks (FWP) proposes to maintain a cooperative rest-rotation grazing program on the Mount Haggin Wildlife Management Area (WMA)-German Gulch system for a 10-year term to extend June 2011 through October 2020. The program consists of a summer grazing lease (436 Animal Unit Months, AUM) with the Peterson Fairmont Ranch, Inc.

This grazing program is run cooperatively with the U.S. Forest Service (USFS) on the Beaverhead-Deerlodge National Forest. The proposed grazing program would encompass approximately 9,287 acres owned by FWP and approximately 10,829 acres administered by the USFS. Total acreage involved would be approximately 20,106 acres.

2. Agency authority for the proposed action: FWP has the authority under Section 87-1-210, M.C.A. to protect, enhance, and regulate the use of Montana's fish and wildlife resources for public benefit now and in the future. Any consideration of continued livestock grazing on Mount Haggin WMA would have to be consistent with the management goals and objectives as outlined in the Mount Haggin WMA Interim Management Plan (1980). The interim management plan states that Mount Haggin WMA will be managed for dispersed outdoor recreation activities that are consistent with the area's ability to support such use without degradation of its natural resource values (wildlife, fisheries, vegetation, and cultural/historical resources). The plan describes activities that are aimed at protecting the basic soil, vegetation, and water resources of the WMA, such as the implementation of a grazing system that will maintain or enhance wildlife and wildlife habitat. In addition, the FWP Commission must approve all grazing leases on Wildlife Management Areas owned by FWP.

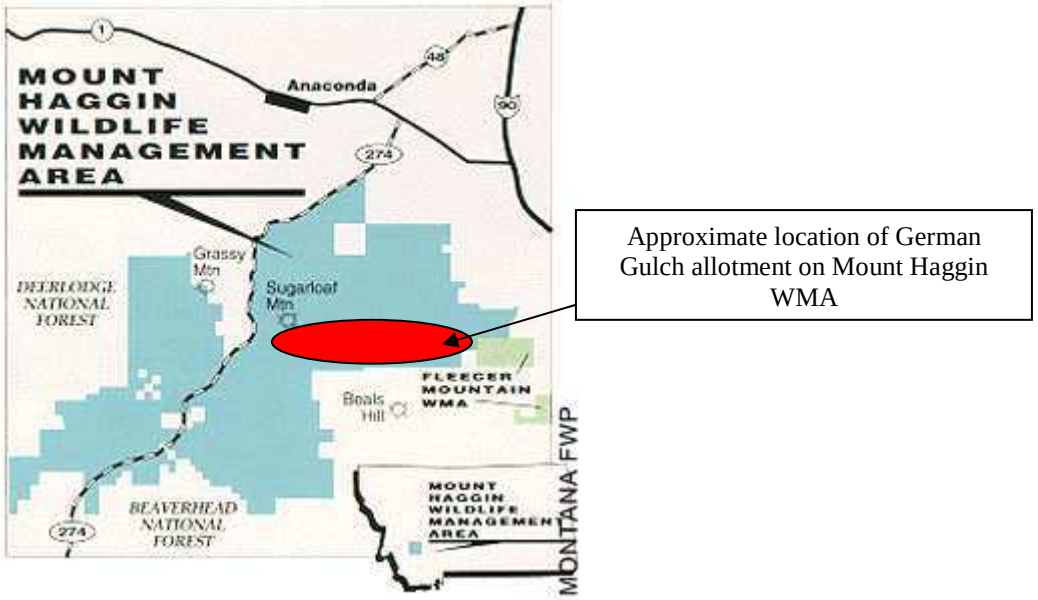
Note: The Mount Haggin WMA Interim Management Plan is in the process of being revised and is expected to be completed later in 2011.

3. Anticipated Schedule: Public Comment Period: Tuesday, February 1 – Monday, February 28, 2011.
Presented to the FWP Commission for Approval: April 14, 2011
Proposed Leases in Effect: June 16, 2011

4. Location: Mount Haggin WMA is located in Silver Bow and Deerlodge Counties in southwestern Montana (Figure 1). The German Gulch allotment is situated in the northeastern portion of the WMA, approximately 10 miles west of Butte, Montana. WMA lands included in this grazing program border USFS lands administered by the Beaverhead-Deerlodge National

Forest. The German Gulch grazing system encompasses parts of Township 3 North, Range 10 West and Township 3 North, Range 11 West.

Figure 1: General Location of the Affected Area



5. Project size:

	Acres		Acres
(a) Developed:		(d) Floodplain	0
Residential	0		
Industrial	0	(e) Productive:	
(existing shop area)		Irrigated cropland	0
(b) Open Space/Woodlands/	0	Dry cropland	0
Recreation		Forestry	6,242
(c) Wetlands/Riparian Areas	514	Rangeland	2,507

Other 0

6. Costs and Jurisdictions:

(a) Permits: none

(b) Costs to FWP: replacement of approximately 8.37 miles of pasture and boundary fence

(c) Other Overlapping or Additional Jurisdictional Responsibilities: State Historic Preservation Office

7. Need for Proposed Action:

History of Proposed Action. In 1989, FWP entered into a cooperative grazing program with the U.S. Forest Service on the Beaverhead-Deerlodge National Forest involving the USFS's German Gulch allotment and adjacent Mount Haggin WMA lands. FWP's involvement in this allotment stemmed from the opening of the Beal Mountain Mine in the late 1980's, located within the allotment, which removed significant acreage from the grazing system and resulted in increased pressure on the rest of the allotment, a large portion of which is located on elk winter range.

FWP saw this as an opportunity to work cooperatively with the USFS to implement a rest-rotation grazing system as described by Hormay (1970) across a 21,000+ acre swath of landscape for the benefit of elk and other wildlife species. Prior to this, the USFS allotment had not been managed according to rest-rotation principles. In exchange for inclusion of Mount Haggin WMA property into the grazing system, the USFS agreed to perpetual rest on one of their pastures that constitutes important elk winter range.

The grazing system originally consisted of three pastures: one large pasture on USFS land and two on FWP property, and 509 AUM's on the WMA lease. The grazing system was revised in 2005 when one of the FWP pastures was temporarily removed from this system in order to accommodate changes in another grazing system on the WMA. As a result, the remaining FWP pasture was split into two and usage on the WMA was reduced to 436 AUM's. In 2009, the FWP pasture was brought back into this grazing system rotation with no adjustments made to the AUM's. Because of the grazing schedule that year, all three FWP pastures were utilized resulting in a one-time usage of 719 AUM's for that year. The schedule has since been adjusted so that this does not occur again (Table 1).

Table 1. Projected livestock grazing formula for the German Gulch cooperative grazing system, 2011-2020.

PASTURE	OWNERSHIP	SEASONAL ELK RANGE	YEAR		
			2011 2014 2017 2020	2012 2015 2018	2013 2016 2019
Lower Beaver	FWP*	Winter	Early	Seed	Rest
Lower German	USFS	Winter	Seed	Rest	Early
Lower Beef	USFS	Winter	Rest	Early	Seed
Mid Beef	USFS	Winter	Rest	Rest	Rest
Upper Beaver	FWP	Summer	Rest	Mid	Late
California	FWP	Summer	Late	Rest	Mid
Minnesota	USFS	Summer	Mid	Late	Rest

*Includes a portion of the USFS horse pasture associated with the High Rye cabin.

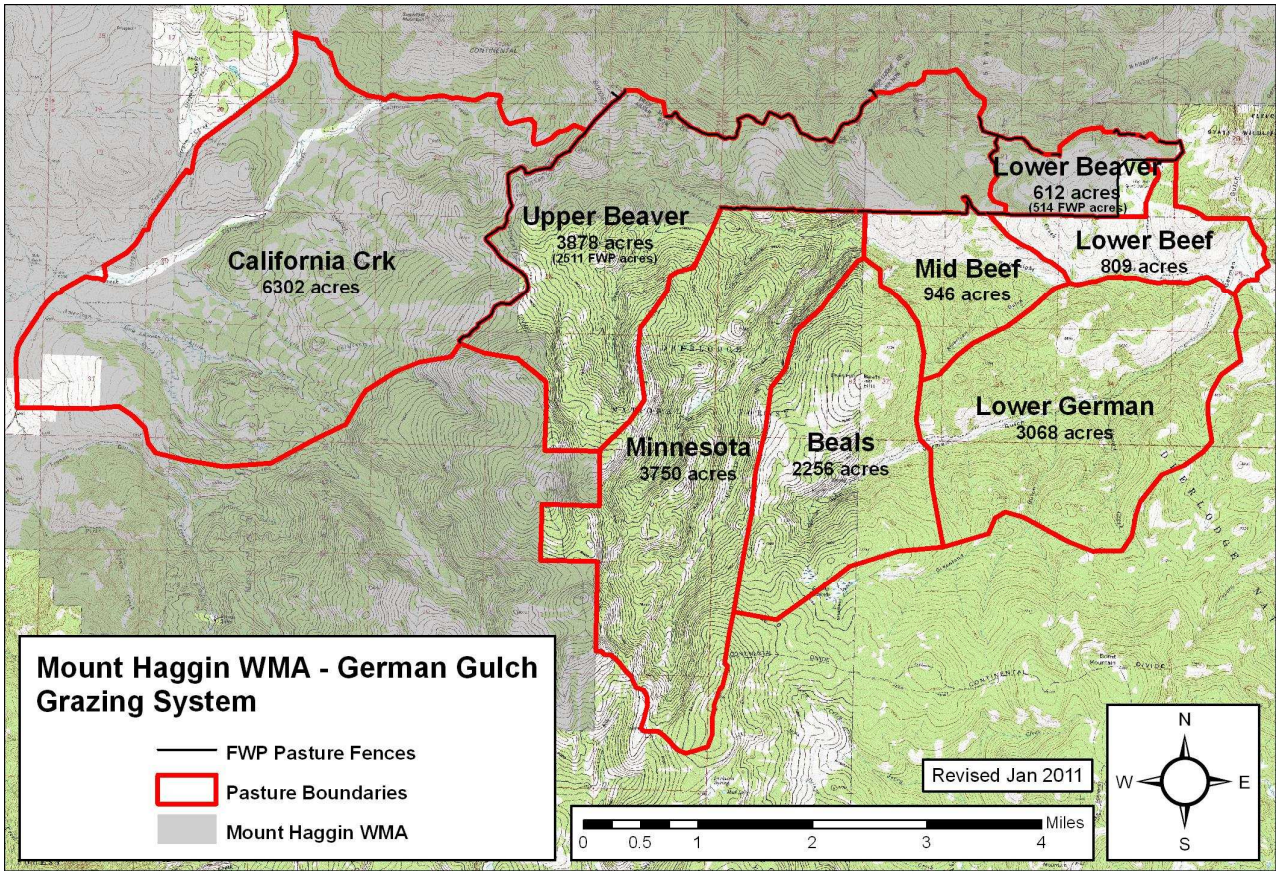
The current grazing program consists of seven pastures with the rotation of livestock, pasture ownership, and seasonal use by cattle and elk (Figure 2). Three pastures are located primarily on FWP property (Lower Beaver, Upper Beaver, and California), while the other four are on USFS administered lands (Lower Beef, Mid Beef, Lower German, and Minnesota). Lower Beaver, Lower German, Lower Beef, and Mid Beef pastures constitute elk winter range. The other three pastures are located at higher elevation. Mid Beef pasture is perpetually rested for the benefit of elk winter range. In addition, one of the other three winter range pastures is rested annually while the remaining two are grazed either early or later in the summer to avoid the peak growing season and provide maximum winter forage for elk as well as nesting, thermal, and hiding cover for other native species. It is expected that the pasture fence between Lower and Upper Beaver pastures will be relocated to the west in order to better distribute acreage in 2011.

Except for a brief period from 2007-2009 when the Beal pasture was run in conjunction with the Lower German pasture, the Beal pasture is not utilized for livestock grazing due to mine clean-

up activities. A fencing change in 2008 expanded FWP's Lower Beaver pasture to include a portion of the USFS horse pasture associated with the High Rye cabin. The Mount Haggin WMA - German Gulch lease has been held by the Peterson Fairmont Ranch, Inc. since 2001. A cooperative grazing agreement between the U.S. Forest Service and Montana Fish, Wildlife & Parks governs this program.

Livestock Grazing Treatments
Early – dates are approximately June 16 through July 15
Mid – dates are approximately July 15 through August 15
Late – dates are approximately August 15 through September 15
Seed – dates are approximately September 15 through October 10
Rest – allows for no livestock grazing

Figure 2: Map of FWP and USFS pastures within the German Gulch cooperative grazing system.



One of the terms of the Mount Haggin WMA-German Gulch grazing leases is that lessees are responsible for maintaining existing WMA interior pasture fences while FWP is responsible for providing materials and any fence replacement or construction. Table 2 lists maintenance costs incurred due to the German Gulch grazing program since 1989. Since the inception of the program, 7,880.5 AUM of livestock use has been provided on the WMA. Grazing fees generated total $69,652.15. Refer to "Appendix A - Stocking Rates on Mount Haggin WMA-German Gulch" for more details.

Table 2: Operation and maintenance costs for Mount Haggin WMA-German Gulch, 1988-2010

YEAR	PROJECT	COST
1988	Fencing	$71,182
1994	Fencing	$5,682
2002	Fencing	$15,272
2003	Cattle guard	$500
	Total Costs	**$92,636**

Need for Proposed Action. The proposed action is to continue the cooperative German Gulch grazing program on Mount Haggin WMA, thereby continuing FWP's involvement in a grazing system that applies sound stewardship across boundaries for the benefit of over 20,000 acres of wildlife habitat on public lands.

The need for the proposed action is to:

- Maintain or improve soils, vegetation, and riparian zones through systematic grazing on the WMA.
- Maintain high-quality vegetation for wintering elk and other wildlife through planned rest from grazing across multiple ownerships.

8. Alternatives:

Alternative A: Renewal of the Mount Haggin WMA-German Gulch grazing lease.
This alternative would continue the cooperative grazing system between USFS and FWP on Mount Haggin WMA-German Gulch as it currently exists for 10 additional years. The Peterson Fairmont Ranch, Inc. would continue to be allowed to graze the Mount Haggin WMA-German Gulch pastures according to the livestock grazing formula presented in Table 1. The total AUM's allowed on this lease would continue to be 436, and the annual period of use would be approximately June 16 – October 10 (vegetation conditions may alter these dates). Payment for use will be the annual DNRC rate per AUM.

Alternative B (No Action): Elimination of livestock grazing on the Mount Haggin WMA-German Gulch grazing system.
This alternative would completely eliminate livestock grazing on this portion of Mount Haggin WMA. This would nullify the cooperative agreement with the USFS and would likely lead to increased use of the Forest Service winter range pastures that currently receive scheduled rest including the Mid Beef pasture that currently receives perpetual rest under the agreement. Overall, loss of a coordinated management program across ownerships would likely lead to less forage across elk winter range and less standing vegetation for nesting and hiding cover for birds, amphibians, reptiles, and other mammals. Elimination of grazing on the WMA might translate to increased hunting and wildlife viewing opportunity in the short term, but lower elk populations and decreased hunting and viewing opportunity in the long term.

II. EVALUATION OF IMPACTS ON THE PHYSICAL ENVIRONMENT

1. Vegetation

The German Gulch grazing area of Mount Haggin WMA ranges in elevation from approximately 5200 feet along Silver Bow Creek in the Clark Fork River watershed up to 8909 feet at an unnamed peak along the Continental Divide. It is predominantly conifer forest interspersed with open rolling grassland/shrublands and riparian corridors along the streams that intersect the area. Bluebunch wheatgrass and rough fescue grasslands are the predominant grasses. Forests are mainly comprised of lodgepole pine and Douglas fir. Aspen and willow stands are common along stream banks and in wet areas. Three perennial streams flow across the area: Beefstraight Creek, California Creek, and the lower reach of American Creek. Of these, Beefstraight Creek flows into the Clark Fork Watershed west of the continental divide, and the other two streams eventually flow into the Big Hole River on the east side of the divide. Average annual precipitation is about 14 inches at Anaconda with 2.5 inches of rain occurring during June.

From early in the previous century to a few years past when FWP acquired the property in 1976, livestock grazing was a regular use of what is now Mount Haggin WMA. Homesteaders first occupied areas of the WMA. Later in response to the "Smoke Case", the Anaconda Mining Company (the "Company") began acquiring these homesteads and eventually amassed the contiguous piece of land that comprises the WMA and much of the surrounding USFS lands (Drummond 1997). In 1920's under ownership of the Company, the Mount Haggin Land and Livestock ran a world-class Hampshire sheep operation on the WMA, grazing upwards of 8,000 sheep annually on the Big Hole side of the WMA, trailing them through the German Gulch area each spring and fall. In addition to sheep, the Company also regularly grazed cattle, horses, and mules on the WMA. Much of this use occurred primarily from early June through late September under a continuous grazing strategy. This significantly reduced forage for wildlife, nesting and hiding cover for birds and other mammals, and negatively impacted willow and other riparian communities along stream corridors. Under FWP's ownership of the property, livestock grazing was eventually eliminated from the WMA until 1984 when a rest-rotation grazing system was implemented on the Big Hole side of Mount Haggin WMA. In 1989, the German Gulch cooperative grazing system was initiated.

In addition to livestock grazing, much of the Mount Haggin WMA area was logged several times during the last century. Historical records indicate that a logging camp was located in the vicinity of the German Gulch area, and that logging occurred nearby. When FWP acquired the property in 1976, the department inherited a logging contract that allowed for commercial harvest of more than 40 million board-feet of timber from 1976-1990 when the contract expired. Several of the cutting units associated with that contract were located in the German Gulch area. A habitat improvement project is currently underway in this same general location involving removal of conifer to open up aspen and bitterbrush stands and create multi-age forests (FWP 2008).

Mining also played a significant role in the Mount Haggin WMA history. One of the first gold mining districts in the greater Butte area was located in French Gulch. German Gulch also was the site of a gold mining community. Five patented mining claims exist along California Creek. Remnants of the mining days can still be found throughout the WMA and surrounding USFS lands.

Long-term vegetation monitoring has been occurring on Mount Haggin WMA since 1986. Photo points, numbering 34 and comprising a total of 167 photos, were permanently established on the WMA. Of these, 5 photo points comprising 18 photos are located within the German Gulch pasture system to monitor the grassland/shrubland cover type. Photos are taken on an annual basis during mid- to late summer after the growing season has peaked. Based on this monitoring method, the habitat on Mount Haggin WMA has responded positively under the rest-rotation livestock grazing systems that are have been implemented on the WMA (Frisina and Keigley 2004).

There have been several studies conducted to assess the effects of livestock grazing on wildlife. A study conducted on the Fleecer WMA (Wambolt et al 1997) examined the affects of cattle grazing on the nutritive quality of bluebunch wheatgrass, an important forage plant for elk. The study found no significant difference in nutrient content from bluebunch wheatgrass that is grazed in the spring by cattle over that which is totally rested for one year or never grazed during the growing season. However, the amount of more desirable current year's growth of bluebunch wheatgrass that is available to elk is likely greater where cattle have grazed versus never grazed areas due to the removal of residual forage. Findings from Crane et al (2001) lend support to this supposition. They found that seasonal elk use increases in areas where cattle grazed the previous summer versus areas that had been rested. On FWP's Mount Haggin WMA, Frisina (1992) found that during early summer, elk use increased in pastures that had been grazed by cattle the previous year. During July and August when cow elk are rearing calves, use switched to the rested pasture where more security cover and forage was available, supporting the fact that the benefits of a rest-rotation system are not just on forage for elk but also for the standing vegetation that is left for thermal, hiding, and nesting cover for birds, amphibians, reptiles and other small mammals.

In general, the WMA hosts a variety of desired native plants in desired amounts. Repeat photos do not suggest a decline in health and vigor of the plant communities with the implementation of the cooperative Mount Haggin WMA-German Gulch grazing system. Non-native plants are present on the WMA but in small amounts and are not causing a negative shift in plant composition. Noxious weeds that have been identified on the WMA include spotted knapweed, Canadian thistle, leafy spurge, and white top. Ongoing weed management on the WMA has included both chemical herbicides and bio-control releases in compliance with FWP's Integrated Noxious Weed Management Plan.

<u>Alternative A</u>: Renewal of the Mount Haggin WMA-German Gulch grazing lease.
Some changes in the vegetation community on the WMA are expected under the continuation of this grazing lease. It is expected that this grazing program would positively influence native vegetation by providing: 1) maximum rest during the growing season which promotes the highest quality potential standing crop of vegetation for wintering wildlife as well as nesting, thermal and hiding cover for other native species; 2) rest and a standing crop of available winter forage and cover on adjacent USFS lands; and 3) improved plant vigor, plant health, and soil stability. In addition, vegetation will benefit from hoof-trampling that helps to set seed.

Vegetation in pastures that have been grazed that year will look grazed. However, given a complete year of rest every third year and a system design that takes into consideration seasonal elk ranges with respect to timing of livestock grazing, plant communities will quickly recover from grazing pressure.

Cattle would likely have negative impact on riparian areas such as trampling of stream bank vegetation and breaking of willows. Much of this can be mitigated by periods of scheduled rest and actions taken by livestock producers to prevent their cattle from concentrating in these areas.

Mineral blocks would be used to manage livestock. Blocks would be placed in mutually agreed upon locations such as rocky areas and hard-packed ground.

Alternative B (No Action): Elimination of livestock grazing on the Mount Haggin WMA-German Gulch grazing system. If the Mount Haggin WMA-German Gulch grazing lease was not renewed, residual vegetation would accumulate due to the lack of removal by livestock. This would likely cause a shift in grazing by elk onto other portions of the Mount Haggin winter range not owned by FWP. If this shift occurs onto private lands, game damage conflicts would increase. Removing livestock grazing on the WMA may cause cattle use to be increased on the USFS pastures which would negatively impact the plant community across elk winter range. In addition, in the absence of a cooperative agreement between FWP and USFS the USFS likely would eliminate the rest-rotation system and instead implement a grazing program that focuses more on beef production than overall benefits to wildlife habitat.

2. Fisheries and Water Resources

The Mount Haggin WMA-German Gulch grazing pastures contain portions of three streams: Beefstraight, California and American Creek. In Beefstraight Creek, the fishery is comprised of westslope cutthroat trout and brook trout with cutthroat being most common. The fish community in American Creek consists of eastern brook trout and mottled sculpin. The fishery in California Creek contains eastern brook trout, rainbow trout, mountain whitefish, and mottled sculpin. Brown trout, Arctic grayling, longnose sucker, and white suckers are present in Deep Creek and may also be present in California Creek but were not documented in recent surveys. Western pearlshell mussels are also present in California Creek and are a sensitive species. It should be noted that while no westslope cutthroat trout have been documented recently in either California or American Creek, there is a potential for restoring this species in these streams if adequate fish barriers can be established and non-native fish removed upstream of those barriers.

Alternative A: Renewal of the Mount Haggin WMA-German Gulch grazing lease. Livestock grazing is expected to have minor negative impacts to riparian areas and the associated fisheries under Alternative A. The dominant channel form in Beefstraight Creek is mostly a "B" type channel. The geomorphology of these types of streams tends to make them somewhat resistant to widespread grazing impacts. Nevertheless, it is likely that with continued livestock presence along Beefstraight Creek at least some measurable damage to streambanks and woody riparian vegetation will occur. The geomorphology of California and American Creeks result in stream banks and riparian areas that are particularly susceptible to grazing impacts. The dominant channel type of these steams would likely be considered a "C" type channel with low to moderate stream gradient and a meandering, highly sinuous stream channel. The riparian

vegetation is primarily willows, grasses, and sedges, and these plants are the primary features stabilizing the stream banks. Potential impacts to these sensitive areas include removal of streambank and riparian vegetation through grazing and trampling of stream banks. Grazing has been shown to impact riparian vegetation and change riparian species abundance and distribution. Juvenile willows are particularly susceptible to livestock grazing as are certain species of sedges. Both of these plant groups are important for stream bank stability. Destabilizing stream banks through trampling and hoof sheer can lead to increased erosion and sedimentation. Further, as streams become widened by trampling of stream banks, they are less able to transport fine sediment leading to further siltation and degradation of fish and other aquatic organism habitat. Trout require clean gravels for spawning and incubation of eggs. If the interstitial spaces between gravels become filled with fine sediment, egg survival decreases dramatically. High levels of fine sediment can also be detrimental to aquatic invertebrates that are prey of fish species. Fine sediment is also detrimental to western pearlshell mussels. An additional impact of livestock on fisheries is the direct trampling of redds. Recent studies in the Beaverhead-Deerlodge Forest indicate that trampling rates of redds in streams can be high. Trampling can lead to direct egg mortality as incubating eggs are highly susceptible to disturbance. The fishery in Beefstraight Creek would likely be the most affected by livestock trampling of redds given the dominance of westslope cutthroat trout in the stream. Westslope cutthroat trout typically spawn in mid to late June, and eggs are present in the gravel until mid to late August. This time period coincides with when livestock are present. Redd trampling currently would not likely result in significant impacts to the fisheries in California and American Creeks because the primary trout species present is brook trout which spawn in the fall (Sept-Oct). Only under the late-season grazing would there be any potential impacts of redd trampling because eggs of fall spawning fish incubate through the winter and hatch in spring (May-June) when livestock are not present. It should be noted, however, that if the streams are restored to westslope cutthroat trout, the potential for trampling impacts may be greater because of the reason described above. Future potential impacts to cutthroat would be evaluated only after the species is restored. Impacts of livestock grazing on the fisheries of Beefstraight, American, and California Creeks are expected to be relatively minor and mitigated by light stocking rates. Further, the existing healthy condition of the riparian area can withstand impacts of light grazing, particularly under the rotational type grazing as proposed. Fisheries surveys conducted in 2008 and 2010 of the Mount Haggin WMA area did not note any significant and/or widespread impacts to any of these streams.

Alternative B (No Action): Elimination of livestock grazing on the Mount Haggin WMA-German Gulch grazing system. Under this alternative, there will be no trampling, siltation, or other negative impacts caused by livestock use in riparian areas. Periodic grazing of riparian areas can be a valuable practice for aiding in control of weeds and in rejuvenating willows and other riparian vegetation, so the complete elimination of grazing may pose potential negative impacts to riparian community health.

***3*. Wildlife**

In 1976, Montana Fish, Wildlife & Parks acquired Mount Haggin WMA primarily as wildlife habitat, and for recreational opportunities for the public. At the time of FWP's acquisition, there was a population of 150-200 elk in Hunting District 341, the district that encompasses the Mount Haggin WMA-German Gulch grazing system. This herd grew to 650-700 elk by the mid to late

1990's. As stated in the Elk Management Plan (FWP 2005), Hunting District 341 is part of the Fleecer Elk Management Unit (EMU) along with Hunting District 319. The population objective for the EMU is to maintain the number of elk observed during post-season aerial surveys within 15% of 1,475 elk (1,250 – 1,700). For HD 341 specifically, the objective is for a maximum of 600 elk. Liberal hunting seasons designed to reduce the population across the EMU during the early 2000's resulted in a steady reduction in the number of elk observed on Mount Haggin winter range during post-season aerial surveys. Elk numbers are currently below the range of the population objective (333 total elk observed in HD 341 in 2010). As a result, hunting opportunities have been restricted in HDs 319 and 341 during the current biennium until numbers rebound.

The German Gulch area of Mount Haggin WMA supports a year-round population of mule deer as well as serving as important winter range. Trend data for this area (Hunting District 341) indicate that the deer population has fluctuated between 200 and 600 animals from the time of acquisition until the early 2000's. In recent years, the population has been on a downward trend with the number of animals observed during aerial surveys being less than 200. During the most recent survey (December 2010), 161 mule deer were observed in HD 341. Concern for the current population trend has led to restrictions in hunting opportunity and habitat improvement projects across the Mount Haggin WMA winter range (FWP 2009).

Mount Haggin WMA is part of Antelope Hunting District 319. While the WMA supports summer use of approximately 60-100 animals, the extent of this seasonal range does not include the German Gulch grazing system area. White-tailed deer occur on the WMA, but in very low numbers. Mount Haggin WMA currently supports a population of less than 20 white-tailed deer, found mainly in the lower elevations where moist areas occur. The area of the Mount Haggin WMA-German Gulch grazing system is located within Moose Hunting District 341. Moose are found throughout this district but are heavily associated with willow and aspen communities. Within the confines of this grazing system, moose are most regularly observed in the American Creek area.

Mountain lions, bobcats, coyotes, and black bear occur on Mount Haggin WMA and have been harvested in the vicinity of the German Gulch grazing system. At this time, there is one known pack of wolves whose home range includes this portion of the WMA.

Blue grouse, Franklin grouse, and ruffed grouse occur on Mount Haggin WMA as well as a variety of small mammals, although no population estimates have been made for these species.

In an effort to be more comprehensive in our management of wildlife species, FWP initiated a comprehensive bird survey of Mount Haggin WMA. This survey effort began in 2010 and will conclude in 2011. Final results from this effort will be recorded in the revised Mount Haggin WMA Management Plan as well as compiled in a birder checklist that will be available to the public. In addition to the bird survey, FWP will repeat a small mammal survey and inventory of the WMA in 2011. The initial effort was conducted in 2006.

<u>Alternative A</u>: Renewal of the Mount Haggin WMA-German Gulch grazing lease. Continuation of the Mount Haggin WMA grazing lease is intended to be beneficial for all wildlife. Grazing treatments are timed to leave high quality vegetation that is attractive to wildlife including wintering elk as well as birds, amphibians, reptiles, and other mammals. Applying a rest-rotation system cooperatively across boundaries extends the benefits of systematic vegetative rest to over 20,000 acres of both FWP and USFS lands. Continuing this cooperative grazing program across publicly owned elk winter range will likely promote elk usage on public land versus private land thus minimizing potential game damage conflicts.

<u>Alternative B (No Action)</u>: Elimination of livestock grazing on the Mount Haggin WMA-German Gulch grazing system. Elimination of the Mount Haggin WMA-German Gulch grazing lease will have negative impacts for wildlife, primarily wintering elk. In the short term, there may be more forage available on the WMA. After a few years of no livestock grazing, previous years' growth of grasses will accumulate across the WMA making it more difficult for wintering elk to reach the more desirable current year's growth underneath. This will cause them to seek out grazed pastures elsewhere. If this occurs on private land, the potential for game damage conflicts to increase is high. Winter range conditions on USFS lands may be compromised if livestock usage increases once FWP eliminates its portion of the German Gulch grazing system. Without FWP's participation in the cooperative grazing program with the USFS, the ability to manage elk winter range across the landscape will be lost which may greatly reduce the quantity and quality of available vegetation and may lead to a reduction in the number of elk.

Birds, amphibian, reptiles, and small mammals may benefit from the increase in accumulated old growth of grasses that provide nesting and hiding cover on the WMA.

4. Soil Resources

Soils in the area of the Mount Haggin WMA-German Gulch grazing pastures are primarily of volcanic origin, ranging from slightly developed and very shallow on the steeper slopes to highly developed and deep in the stream bottoms. Soils are classified as Mollisols and Alfisols (Alt and Hyndman 1986).

Throughout the past century, soils on this portion of the WMA have been exposed to disturbance from livestock movements, movements of resident and transient wildlife, mining, and logging. If Alternative A is selected, some disturbance of soil will occur under the grazing system. Such disturbance would be minor due to the design of the grazing system where pastures receive complete rest during the growing season two out of every three years. Some disturbance to the soil from livestock grazing in the fall is beneficial for seedling establishment through seed trampling (Hormay 1970). If Alternative B was chosen, this would not occur.

III. <u>EVALUATION OF IMPACTS ON THE HUMAN ENVIRONMENT</u>

1. Access and Recreation

The portion of Mount HagginWMA where the German Gulch grazing system is located is in deer/elk Hunting District 341. For its relatively small acreage, recreation hunting in this district has been among the highest in the state due to the large proportion of public land and proximity to Butte and Anaconda. In 2009, approximately 560 elk hunters spent approximately 3,965 days

in the field during hunting season. Deer populations in this hunting district provided approximately 374 hunters with approximately 2,836 days spent hunting. The WMA also provides moose, black bear, and mountain lion hunting opportunities in addition to mountain grouse hunting and trapping. Opportunities for camping, hiking, wildlife watching, photography ,and other forms of non-consumptive recreation are boundless.

Alternative A: Renewal of the Mount Haggin WMA-German Gulch grazing lease.
The presence of cattle would minimally restrict recreational use of the WMA, mainly in the form of opening and closing pasture gates and for some the visual or odiferous impacts of cattle on the landscape. During the period of use, cattle would only occupy one of three WMA pastures and the recreating public would be permitted full access and use of the WMA even in the pasture that is occupied by cattle. Horn hunting and bear hunting are the main activities that occur on this portion of the WMA during the spring. Due to the timing of the opening of the WMA (May 15), the close of bear season in this district (June 15), and the beginning of the grazing season (June 16), this grazing system won't impact either of these recreational activities. Grazing in the fall is concurrent with several game hunting seasons. Minor impacts to these recreational activities can occur due to the presence of livestock (game being spooked by the livestock, visual impacts to hunters and other recreationalists, etc). Cattle would be removed from the WMA prior to the start of big game general season. Overall, the proposed action would have a positive effect on the quality and quantity of recreation in the area since the entire grazing system is designed to improve vegetation and habitat conditions on over 21,000 acres of public land for the benefit of wildlife and the recreating public.

Some members of the public may be impacted aesthetically depending on their level of tolerance for the presence of livestock on the WMA. Otherwise, no significant changes to recreational opportunities or access are anticipated if this alternative was implemented.

Alternative B (No Action): Elimination of livestock grazing on the Mount Haggin WMA-German Gulch grazing system. Complete elimination of livestock from the WMA would not significantly affect access except that the public would not need to close gates along interior pasture fences while recreating on the WMA. Otherwise, the public would continue to have full access and use of the WMA. In the short term, complete elimination of livestock from the WMA may increase hunting and wildlife watching opportunities on the WMA. Cattle would not be present on the WMA to offend some segments of the public who do not like to recreate on public lands in the presence of livestock. However, over time and in the absence of livestock grazing on the WMA, habitat quality across the winter range (i.e. across ownership boundaries) may suffer, leading to a decrease of elk and other mammals and birds that rely on dense stands of tall grasses and shrubs for nesting and hiding cover. Over time, this could lead to a decrease in hunting, wildlife viewing, and horn-hunting opportunities on the WMA.

2. Community Impacts and Land Use
Alternative A: Renewal of the Mount Haggin WMA-German Gulch grazing lease.
A locally-owned ranch would be allowed to utilize a portion of Mount Haggin WMA for summer livestock grazing. The proposed grazing treatment would have a positive influence on the productivity and economics of existing public and private land use in the area. This

alternative would result in no change in the total number of 436 AUMs that are currently allowed to graze this portion of Mount Haggin WMA.

Alternative B (No Action): Elimination of livestock grazing on the Mount Haggin WMA-German Gulch grazing system. Under this alternative, there would be no livestock grazing on this portion of Mount Haggin WMA. FWP would continue to manage the WMA for the benefit of its natural resources (wildlife and vegetation) while providing for the public access to hunt and recreate. Current lessees would have to locate additional summer grazing lands for their livestock.

3. Cultural and Historic Resources

This portion of Mount Haggin WMA is historically important for providing habitat for wintering elk and other big game species and hunting-oriented recreation. Livestock grazing has been a practice on the WMA through the German Gulch cooperative grazing program since 1989. Prior to FWP's acquisition of the Mount Haggin WMA in 1976, the property had been heavily grazed by livestock for over 50 years while under the ownership of the Mount Haggin Livestock Company, a subsidiary of the Anaconda Mining Company. In addition, mining and logging have also been historical uses of this property.

If Alternative A was implemented, the grazing of cattle on the WMA is not expected to disturb existing cultural or historic resources. If either alternative was chosen, FWP would continue to watch for previously undiscovered resources and consult with the State Historic Preservation Office for guidance and assistance.

4. Risk/Health Hazards

Neither of the alternatives are expected to result in increased risk or health hazards to humans or wildlife. Noxious weed control within the WMA will involve the use of chemical herbicides and will be applied in recommended amounts that should have minimal impacts on nontarget vegetation under all alternatives.

5. Public Services

Alternative A: Renewal of the Mount Haggin WMA-German Gulch grazing lease. This alternative would result in a commitment of FWP funds for continuing oversight to maintain the Mount Haggin WMA-German Gulch grazing system, i.e. fence repair and replacement, as needed. No additional fencing would be required. Any maintenance expenses will be covered by the existing operations and maintenance budget for the WMA as well as shared expenses with the USFS where it pertains to boundary fences.

This alternative would have a positive impact on state and local tax revenues through its contribution to maintaining a viable livestock operation and wildlife/recreation based economy in the area. Direct revenue includes fair market compensation (DNRC grazing rate for 2010 was $6.12/AUM) for 436 AUMs for the summer grazing.

Alternative B (No Action): Elimination of livestock grazing on the Mount Haggin WMA-German Gulch grazing system. Same as Alternative A regarding fencing costs except that only boundary fences would need to be maintained while interior pasture fences could be left in

disrepair. If the cooperative grazing agreement with the USFS were eliminated, the USFS would no longer share the cost of fence replacement along the FWP-Forest Service boundary. FWP would have to bear the sole cost of such replacement in order to keep trespass livestock off WMA property.

IV. PUBLIC PARTICIPATION

1. Public involvement:
The public will be notified in the following manners to comment on this current EA, the proposed action, and alternatives:

- Two public notices in each of these papers: *Montana Standard* and *Anaconda Leader*
- One statewide press release
- Public notice on the Fish, Wildlife & Parks web page: *http://fwp.mt.gov*, and
- Copies of this environmental assessment will be distributed to neighboring landowners, local sportsmen's clubs, county commissioners, and other interested parties to ensure their knowledge of the proposed project.

2. Duration of comment period:
The public comment period will extend for (27) twenty-seven days. Written comments will be accepted until 5:00 p.m., February 28, 2011 and can be mailed to the address below:

Mount Haggin WMA-German Gulch Grazing Lease
Montana Fish, Wildlife & Parks
1820 Meadowlark Lane.
Butte, MT 59701

Or email comments to: vboccadori@mt.gov. Please put "German Gulch Grazing EA" in the subject line.

V. EA PREPARATION

1. Based on the significance criteria evaluated in this EA, is an EIS required? (YES/NO)? No.
Based upon the above assessment, which has identified a very limited number of minor impacts from the proposed action, most of which can be mitigated, an EIS in not required and an environmental assessment is the appropriate level of review.

2. Person responsible for preparing the EA:
Vanna Boccadori
Butte Area Wildlife Biologist
Montana Fish, Wildlife & Parks
1820 Meadowlark Lane.
Butte, MT 59701
(406) 494-2082

3. List of agencies or offices consulted during preparation of the EA:
Peterson Fairmont Ranch, Inc.
Montana Fish, Wildlife & Parks: Fish and Wildlife Division, Legal Bureau
Montana Natural Heritage Program
U.S. Forest Service, Beaverhead-Deerlodge National Forest

REFERENCES

Alt, D. and D. W. Hyndman. 1986. Roadside Geology of Montana. Mountain Press Publishing Company, Missoula, MT. 427 pp.

Crane, K.K., J.C. Mosley, T.K. Brewer, W.L.F. Torstenson, and M.W. Tess. 2001. Influence of cattle grazing on elk habitat selection. Proceedings, Western Section, American Society of Animal Science. Vol. 52: 160-164.

Drummond, J. 1997. The history of Mount Haggin Livestock Company and the Drummond family on the ranch. Bozeman, MT. 148 pp.

Frisina, M.R. and R.B. Keigley. 2004. Habitat changes: Mount Haggin Wildlife Management Area. Rangelands 26: 3-13.

Hormay, A.L. 1970. Principles of rest-rotation grazing and multiple-use land management. USDI Bureau of Land Management, USDA Forest Service. (TT-4)(2200). 26 pages.

Montana Fish, Wildlife & Parks. 1980. Mount Haggin WMA Interim Management Plan. Butte. 9pp

Montana Fish, Wildlife & Parks. 2005. Elk Management Plan. Helena 397pp

FWP Mt Haggin Habitat Mgmt Plan. Butte. 24pp.

Montana Fish, Wildlife & Parks. 2009. Mount Haggin Wildlife Management Area Habitat Improvement Project. Environmental Assessment Decision Notice.

Wambolt, C. L., M.R. Frisina, K.S. Douglass, and H.R. Sherwood 1997. Grazing effects on nutritional quality of bluebunch wheatgrass for elk. Journal of Range Management 50: 503-506.

APPENDIX A
STOCKING RATES ON MOUNT HAGGIN WMA-GERMAN GULCH GRAZING SYSTEM

	Season of Use [#]			AUMs grazed per pasture *				Grazing Fee	
Year	Pasture 1 (Upper California)	Pasture 2 (Beaver)	Pasture 3 (USFS)	Pasture 1 (Upper California)	Pasture 2 (Beaver)	Pasture 3 (USFS)	FWP Total	$ per AUM	FWP revenue
1989	late	rest	mid	218	0	272.5	218	$9.79	$2134.22 (estimated)
1990	rest	mid	late	0	272.5	218	272.5	$8.04	$2190.90 (estimated)
1991	mid	late	rest	272.5	218	0	490.5	$9.61	$4713.71 (estimated)
1992	late	rest	mid	218	0	272.5	218	$10.58	$2306.44 (estimated)
1993	rest	mid	late	0	272.5	218	272.5	$11.86	$3,231.85
1994	mid	late	rest	272.5	218	0	490.5	$11.40	$5591.70 (estimated)
1995	late	rest	mid	218	0	272.5	218	$11.80	$2,572.40
1996	rest	mid	late	0	272.5	218	272.5	$11.90	$3,242.75
1997	mid	late	rest	272.5	218	0	490.5	$11.80	$5,787.90
1998	late	rest	mid	218	0	272.5	218	$12.30	$2,681.40
1999	rest	mid	late	0	272.5	218	272.5	$12.60	$3,433.50
2000	mid	late	rest	272.5	218	0	490.5	$13.20	$6,474.60
2001	late	rest	mid	218	0	272.5	218	$4.94**	$1,076.92
2002	rest	mid	late	0	289.9	223	289.9	$6.20	$1,797.38
2003	mid	late	rest	292.6	220	0	512.6	$5.77	$2,957.70
2004	late	rest	mid	220	0	292.6	220	$5.48	$1205.60 (estimated)
	Grazing system extensively revised between 2004 and 2005 [&]								

	Season of Use [#]						AUMs grazed per pasture *							Grazing Fee	
	California	Upper Beaver	Lower Beaver	Minne-sota	Lower Beef	Lower German	California	Upper Beaver	Lower Beaver	Minne-sota (USFS)	Lower Beef (USFS)	Lower German (USFS)	FWP Total	$ per AUM	FWP revenue
2005	%	mid	early	late	rest	seed	%	218	218	218	0	182	436	$6.64	$2,895.04
2006	%	late	seed	mid	early	rest	%	221	221	221	182	0	442	$6.22	$2,749.24
2007	%	late	rest	mid	seed	early	%	221	0	221	182	221	221	$7.87	$1,739.27
2008	mid	rest	early	late	rest	seed	221	0	221	221	0	182	442	$6.94	$3,067.48
2009	late	mid	seed	rest	early	rest	283	218	218	0	109	0	719	$6.97	$5,011.43
2010	rest	late	rest	mid	seed	early	0	456	0	171	76	171	456	$6.12	$2,790.72
Total													7880.5		$69,807.22

[#] all dates are based on lease parameters, not actual use

* per pasture AUM use is derived from dates of use and lessee reports (USFS pastures are included for reference in gray)

** $ per AUM price decreased in 2001 when leases took on responsibility for fence maintainance and FWP began charging annual DNRC grazing rate

[&] revision of grazing sytem included both pasture boundries and rotation areas, and incorporated additional USFS pasture lands, FWP AUMs adjusted from 509 to 436

[##] approximate dates of use for 2005-2009 are as follows: Early (Jun 16-Jul 15), Mid (Jul 1-Aug 15), Late (Aug 1-Oct 10), Seed (Aug 1-Oct 10, Sept 15-Oct 10 preferred)

[%] California pasture pulled out of the German Gulch grazing system during this time and used in another MHWMA grazing system